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**Addressing Renewable Energy Conundrum in the DR Congo: Focus on
Grand Inga Hydropower Dam Project**

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Abstract

The DR Congo is a resource-rich country with major energy potential. Nevertheless, it has experienced a severe energy crisis. Most of the population does not have access to electricity. Also, the energy deficit has hampered the country's economic development, notably in the copper-cobalt belt of the ex-Katanga province. With the World Bank's support, the Government liberalized its energy sector in 2014. It opted to promote the development of renewable energy, especially the Grand Inga hydropower dam project. This infrastructure project aims to ensure access to affordable, reliable, sustainable and modern energy for all. In this regard, it is in line with the Sustainable Development Goal (SDG) 7, one of the 17 SDGs of the UN 2030 agenda for sustainable development.

The paper analyzes key orientations of the country's energy policy. It examines the Grand Inga hydropower dam project. The project has a capacity of 40,000 MW, which is estimated at USD 80 billion. The large-scale infrastructure includes the Inga 3 dam (a first phase), which will mainly provide electricity to mining companies in the ex-Katanga province and South Africa. The development of the Inga 3 dam is confronted with political, geostrategic, and financial challenges, notably the suspension of the World Bank's funding in 2016. Meanwhile, the energy sector remains under high pressure in the DR Congo facing political instability and insecurity in the eastern provinces. Given the development of climate-friendly technologies, especially the electric-mobility, the downstream companies have plans to secure cobalt from the DR Congo. However, mining companies of the copper-cobalt belt might fail to respond to the need of the downstream companies given a lack of a reliable and affordable energy supply.

Policy recommendations suggest that further transparency in implementing the Grand Inga project is required for restoring donors' confidence and improving the electrification process, while the country continues to strive for political stability and sustainable development.

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Introduction

The DR Congo's hydropower resources are estimated at about 100,000 MW, of which 44,000 MW are concentrated at the Inga site (Kongo Central province). The Grand Inga project has regional and continental dimensions. It is one of the key priorities of the African Union (AU) agenda 2063. The country has encountered challenges in unlocking its renewable energy potential. This paper examines the factors holding back investment in the renewable energy projects in the DR Congo by focusing on the belated implementation of the Grand Inga hydropower dam project, particularly the Inga 3 dam.

Firstly, the country has experienced a major electricity crisis over the decades. The key motives pertaining to the energy supply crisis are investigated in this paper.

Secondly, in 2014, the government reformed the energy sector's legislation to ensure electricity security. Among others, the energy sector liberalization aimed to facilitate the development of the Grand Inga project.

Thirdly, mobilizing investment in clean energy infrastructure is critical to meeting the commitment of the 2015 Paris Agreement and SDG7. After failed attempts to raise capital inputs, the Inga 3 dam project attracted donor funding. However, the World Bank pulled out of the project. Meanwhile, a rise in Chinese outbound mining investments in the ex-Katanga put tremendous pressure on the need to accelerate the construction of the Inga 3, given green technology development.

1. The Electricity Sector in Crisis in the DR Congo

The national hydroelectric potential is estimated at about 100,000 MW, corresponding to 13% of the global potential or 66% of the potential of Central Africa. In 2014, the energy supply represented only 2% of the hydroelectric potential. Consequently, the DR Congo has been exposed to a chronic energy deficit.

1.1. An Outdated National Grid in the DR Congo

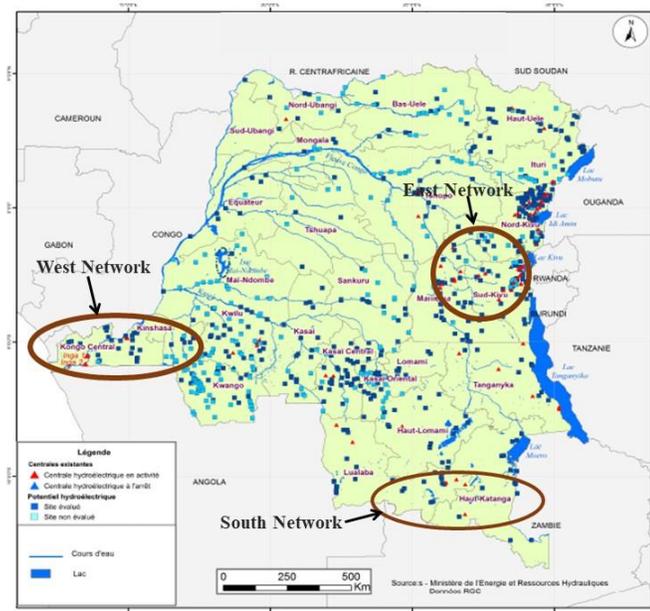
In 2017, hydropower represented more than 90% of the national electricity production (International Hydropower Association 2018, 66). It mainly relied upon the electricity produced at the Inga site. In 2014, the country's installed energy capacity was estimated at 2,442 MW, of which the operational capacity was only estimated at 1,281 MW (World Bank 2018, 7).

1.1.1. The Controversial Role of a National Company of Electricity

From 1970 to 2014, the Société Nationale d'Electricité (SNEL)², a Public Sector Enterprise (PSE), had a monopoly of production, transmission, distribution and trading of electricity. It managed the national grid comprising: (i) the West network, (ii) the Southern network, and (iii) the East network (Figure 1). It detailed 50 energy supply plants, including 14 hydroelectric dams.

². The creation of the SNEL is associated with the first generation of dams, such as the Inga dams.

Figure 1. Overview of the National Grid in 2014



Source: The author on a basis of (Ministère des Ressources Hydrauliques et Electricité. 2016)

Over the years, the national grid became obsolete. The SNEL outperformed owing to several factors: (i) a lack of maintenance of existing electric utilities; (ii) a continued accumulation of arrears in payments from major customers (the state and other PSEs); and (iii) mismanagement of funds (SNEL 2005, 19; IMF 2013, 64). Altogether, the state power utility encountered critical financial difficulties preventing it from rehabilitating hydropower plants or investing in new energy infrastructures. In 2011, the government started restructuring the SNEL, which became a limited liability company in December 2010.

1.1.2. The Inga 1 and Inga 2 Dams : First Attempt to Unlock Renewable Energy at the Inga Site

The West network comprises the Zongo 1 hydroelectric plant³ and the Inga site in the Kongo Central province (250 km from Kinshasa), which has a potential of 44,000 MW. From 1937 to 1960, first studies on the Inga site were launched under the Belgian colonization (Société Nationale d'Electricité 2000, 41). Seven years later, President Mobutu expanded the West network by building the Inga 1 (351 MW) and the Inga 2 (1,424 MW) plants, which became operational in 1972 and 1982 respectively. These dams were not fully operational. The Inga site's development was associated with major financial risks. The country's unsustainable external debt was largely due to the construction of the Inga infrastructure scheme (Mabi Mulumba 2011, 284-285).

1.2. Aftermath of Electricity Shortages in the DR Congo

The acute energy crisis has negatively impacted the country's socio-economic development. It has also strengthened social inequality in the DR Congo, where the

³. Zongo 1 was built during the Belgian colonization.

poverty rate stood at 63.4% in 2012, referring to the International Monetary Fund (IMF) (IMF 2015, 4).

1.2.1. A Limited Industrialization in the DR Congo

The mining industrialization was inherited from the Belgian colonization in the copper-cobalt belt of the ex-Katanga province⁴. In the 1980s, the Inga 2 dam and the Inga-Kolwezi transmission line, were designed to supply energy to the belt. It is worth mentioning that in 1986, the SNEL struggled to ensure the profitability of the Inga-Kolwezi line (Mabi Mulumba 2011, 100).

Since the 2000s, the mining industrial sector has experienced energy insecurity in the ex-Katanga. In response, the SNEL has imported energy supply from Zambia, a member of the Southern Africa Power Pool (SAPP), through the Luano-Karavia line. Overall, the electricity bottlenecks have contributed to the business climate's deterioration. It has impaired the country's competitiveness entailing negative impact on economic growth (IMF 2015, 4 & 37).

1.2.2. A population in Constant Search for Energy Supply

The World Bank stresses that in 2016, access to electricity only amounted to 17.1% of the population, corresponding to 47.2% of the urban population and 0.4% of the rural population (World Bank 2018). The population usually meets its energy demands, through off-grid sources, such as biomass (charcoal and firewood). Altogether, it is exposed to harsh living conditions in a country which ranked 176 out of 188 countries in 2015, referring to the 2016 Human Development Index (HDI) (UNDP 2016, 200).

In line with SDG 7, improving access to electricity, notably clean energy, will contribute to inclusive growth. In practice, the implementation of the Inga 3 hydropower project will only allocate 1,000 MW to the population⁵. It will not participate in easing social tensions and reducing inequality of access to electricity (Talotisa, Baziliana, Welscha, Gielenc, Howellsa 2014, 13).

2. Highlights the Congolese Energy Sector Reform

In 2014, the DR Congo reformed the energy sector's legislation with the World Bank's assistance. The energy sector's liberalization aimed to provide affordable and reliable energy to all consumers.

2.1. Key Priorities in terms of Energy Security

On June 17, 2014, the electricity law n° 14/011 was promulgated (Journal Officiel de la RD Congo 2014). By ending the 44-year monopoly of the SNEL, it liberalized the electricity production, transmission, and distribution to unlock the country's energy potential.

2.1.1. Insights of the Electricity Law

The main innovations are as follows: the key role of the private sector, the tender process, the creation of entities, the decentralization of electricity, and the socio-environmental dimensions.

⁴. The ex-Katanga province has been divided into four provinces (Lualaba, Haut-Katanga, Haut-Lomami, and Tanganyika) since 2015.

⁵. See paragraph 3.1.2.

- *Public-Private Partnership (PPP)*. Article 5 stresses the right of everyone to access electricity. The government and the provinces⁶ organize the public electricity service, which is managed by the private sector. However, Article 8 states that hydroelectric and geothermal production sites belong to the public domain.

- *The Tender Process*. Under Article 39, the granting of concessions and licences is subject to the tendering procedure.

- *The Regulatory Authority Agency (ARE) under the Ministry of Energy's Supervision*. Articles 90 and 93 indicate the creation of the ARE in charge of monitoring the energy sector.

- *The Decentralization of Energy Supply*. Article 91 stipulates that the government will implement the National Rural Electrification Agency (ANSER) responsible for promoting and financing of the electrification in rural and peri areas.

- *Socio-Environmental Aspects*. Article 12 notes that all energy projects are pre-submitted to an environmental and social impact assessment.

Four years later, the ARE and the ANSER are not fully operational, which does not help in attracting Foreign Direct Investment (FDI) inflows (Zoom Eco, 2018).

2.1.2 Towards the Upgrade of the National Grid

Beyond developing the Grand Inga project, the country opted for renovating the above-mentioned dams. Donors provided funding for renovating the Inga site. The World Bank's support in rehabilitating of the Inga 1 and the Inga 2, amounted to USD 45 million and USD 55 million, respectively. The Zongo 1 dam was also rehabilitated. The government planned to expand the national grid by building small and medium scale projects, notably the Zongo 2 dam (International Hydropower Association 2017, 53).

3. Promotion of Renewable Energy in the DR Congo: The Case of the Inga Hydropower Project (Challenges and Limits)

In the 1970s, first studies on the Grand Inga were launched. Since then, the large-scale hydropower project has accumulated several obstacles, which kept on delaying the official launch of the Inga 3 dam. The latter has been conceived as a regional energy infrastructure, in which South Africa plays a key role. The growing political interference in managing the Inga 3 project occurred at a time when the fragile state embarked into political instability.

3.1. Developing the Inga 3 Project: From Failed Partnerships to the Key Role of Donors

Given a lack of funding, the Inga 3 project has involved several stakeholders over the years, including South Africa, the World Bank, and the African Development Bank (ADB).

3.1.1. Building the Inga 3 dam: First Failed Attempt at Mobilizing Donors

In 2004, the Western Power Corridor (Westcor) comprising the DR Congo, South Africa, Angola, Namibia, and Botswana set up a regional energy integration for implementing the Inga 3 hydropower project. In the wake of President Kabila's election, in 2006, the country embarked on the economic reconstruction, focusing on 5 development pillars (infrastructure, job creation, education, water, and electricity). Building the Inga 3 dam became a national priority. On June 26, 2006, BHP Billiton SA (the Australian mining giant)

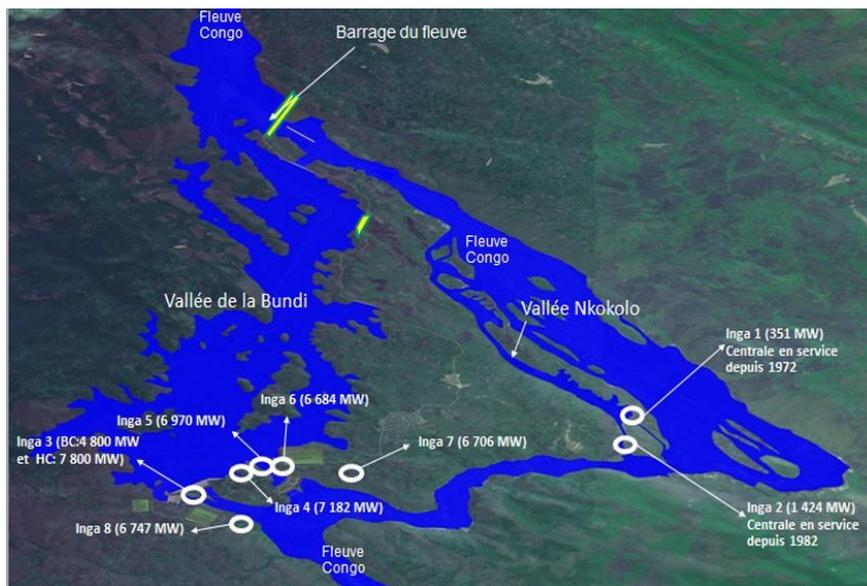
⁶. The electricity law takes into account the principle of decentralisation. In 2015, the country created 26 administrative provinces. The latter are not adequately fiscally decentralized. Without substantial budgets, these provinces will have more difficulty in applying the law requiring a sound management of energy supply produced by one or more private companies.

and the SNEL, concluded a PPP, after a tender process. BHP agreed to build the Inga 3 dam, estimated at USD 3.5 billion. As the principal off-taker of the electricity generated, it planned to obtain 1,600 MW out of 2,000 MW, for developing its aluminium project. Five years later, Westcor did not register progress on the Inga 3 project. Consequently, the DR Congo's withdrawal from Westcor ended the regional integration in 2009. Facing multiple challenges, BHP withdrew from the Inga 3 project by abandoning its aluminium plant's project in February 2012 (World Bank 2014, 38).

3.1.2. Rising Interests of the Bilateral and Multilateral Donors in the Inga 3 Project

Despite the failed partnerships, the country maintained its interest in developing the Grand Inga project, estimated at about USD 80 billion. The mega energy infrastructure consists of the Inga 3 hydropower scheme (the Inga 3 low chute and the Inga 3 high chute) and five other dams (Inga 4 to Inga 8) (see Figure 2). The country intended to become a major energy exporter in Africa by supplying electricity to five regional electrical networks, including the SAPP and the West African Power Pool (WAPP).

Figure 2. Overview of the Grand Inga Project in the Kongo Central Province



Source: The author on the basis of (Kapandji Kalala. 2017).

The country planned to expand the West network by building the Inga 3 dam with a projected capacity of 4,800 MW⁷: (i) 2,500 MW for South Africa; (ii) 1,300 MW for mining companies operating in the ex-Katanga; and (ii) 1,000 MW for the population. The Inga 3 project was valued at between USD 12 billion and USD 14 billion. It will be developed on the basis PPP model, as public investments are limited due to debt capacity constraints (World Bank 2018, 8). However, the donor coordination became more challenging than expected.

⁷. See paragraph 3.3.1. in 2017, the projected capacity has been increased from 4,800 MW to 12,000 MW, which will significantly increase the total cost of the Inga 3 dam. It will also respond to a rising national demand, given the insufficient domestic energy market.

- **The Key Role of South Africa in Developing Inga 3 Project**

Given the energy crisis, South Africa was eager to secure low-cost and clean energy that the Inga site could produce. Therefore, South Africa and the DR Congo progressively strengthened their cooperation in the energy sector. On November 12, 2011, they signed a memorandum of understanding on the Grand Inga project. On October 29, 2013, President Kabila and former President Zuma signed a 10-year treaty on the Inga 3. On September 9, 2014, a bilateral deal on energy was also signed. On November 21, 2014, the DR Congo authorized the ratification of the said treaty (Journal Officiel de la RD Congo, 2014, 6-7).

South Africa demonstrated a vital interest in the Inga 3 project, which will contribute to reducing the national electricity gap (Maupin 2015, 1-12). Through Eskom (the national utility company), it will also become the biggest importer of power produced at the Inga 3 dam (2,500 MW) to bolster the country's economic development. The Grand Inga project constitutes a powerful geostrategic tool.

- **The Involvement of the Multilateral Donors in the Inga 3 Project**

The donors expressed a real interest in developing Inga 3. Firstly, in 2010, the ADB provided technical support of USD 15 million. In 2013, it awarded USD 33.4 million to create a structure in charge of the Grand Inga project and to assist the government in selecting the Inga 3 developer. Secondly, on March 20, 2014, the World Bank approved a Technical Assistance (TA) project on the Inga 3 and mid-size hydropower development, funded by an International Development Association (IDA) grant of USD 73.1 million. Funds were allocated to the environmental and social studies, which were critical before building the Inga 3 dam. However, in April 2015, the World Bank voiced its concerns about the project's management.

3.2. Presidential Interference in the Management Inga 3 Project and Its Consequences

While the DR Congo started experiencing a severe political crisis, President Kabila reinforced his leadership on the Inga 3 project. He prioritized the bilateral relationship with South Africa. The unexpected change in option ultimately generated a major crisis with the World Bank, as governance of such a large project remains under intense scrutiny.

3.2.1. Key Drivers of the Crisis between the Congolese State and the World Bank

Although the draft law on Inga was submitted at parliament, on October 13, 2015, President Kabila signed two ordinances (World Bank 2018, 27):

- The creation of the Inga Development Authority (ADPI), a specialized unit⁸ within the president's office in charge of monitoring the implementation of the Inga 3 project (Journal Officiel de la RD Congo 2015, 6-7);

- The appointment of Mr Kapandji Kalala, former minister of Hydraulic Resources and Electricity (MRHE), as the head of the ADPI (Journal Officiel de la RD Congo 2015, 8).

⁸. The presidential ordinance is based on Article 5 of the 2013 treaty on Inga between the DR Congo and South Africa, defining Inga as a national priority. It occurred eight months after the treaty on Inga came into effect on March 20, 2015.

Regardless of the World Bank's concerns, the presidential strategy⁹ led stakeholders of the Inga 3 project to directly deal with the president's office. A similar situation occurred with the construction of the Inga dams during the Mobutu era. More importantly, President Kabila demonstrated his determination to accelerate the long-overdue implementation of the Inga 3 dam. The presidential strategy designated South Africa as a strategic bilateral donor. It consisted of vital geopolitics and financial interests¹⁰ in a tense pre-electoral context.

3.2.2. The World Bank Perspective of the Crisis

The World Bank disagreed with a presidency-led process, given a lack of transparency and accountability. The Inga project is exposed to a high-risk of the mismanagement of funds. The multilateral donor only acknowledged the policy letter signed by then Prime minister Matata Ponyo on November 12, 2013 (World Bank 2014, 88-95). According to the said letter, the ADPI was an autonomous "ring-fenced development authority" in charge of mobilizing funds and reporting to the Prime Minister (World Bank 2014, 9).

In an effort to mitigate the crisis, on December 17, 2015, the World Bank requested from the Congolese authorities that they restructure the project by providing further details on the selection process for awarding the concession and South Africa's involvement in the Inga 3 project. In absence of clarification, on July 25, 2016, the World Bank suspended disbursement of funding on TA project on the Inga 3 and mid-size hydropower development, which did not follow "international good practice" (World Bank 2016). On September 2016, it ended the project after disbursing USD 3.11 million or 4.3% of funds (World Bank 2018, 1-10). Although the World Bank's decision sent a negative signal to investors, South Africa, the ADB, and other donors maintained their commitments to the Inga 3 project (Fabricius 2016).

3.3. The Inga Project under the ADPI Umbrella

The highly politicized Grand Inga dam project put additional pressure on the remaining stakeholders. Meanwhile, addressing the energy gap in the ex-Katanga is a critical issue for mining operators, including Chinese mining companies.

3.3.1. A Lengthy Public Tender Process

In 2010, the government launched a process for selecting a developer. Five years later, six candidates were prequalified. On May 10, 2016, only three candidate developers remained: (i) Sinohydro-Three Gorges Corporation (the Chinese Consortium); (ii) Actividades de Construcción y Servicios (ACS); and (iii) Eurofina and EEA (the Spanish consortium). The ADPI acknowledged the withdrawal of Daewoo-Posco and SNC-Lavalin (a South Korean and Canadian consortium) from the tender procedure. On June 13, 2017, the ADPI requested the merge of two remaining consortia (Groupement ProInga and Groupement Chine d'Inga¹¹) to produce a unique offer. In July 2017, it announced an upgrade of the Inga 3 dam's projected capacity from 4,800 MW to 12,000 MW. This led to several adjustments: (i) a review of technical studies and additional technical studies; and

⁹. The presidential strategy also revealed an informal competition between President Kabila and then Prime Minister Matata Ponyo, who had the support of the Bretton Woods institutions, particularly the World Bank. The above-mentioned Prime Minister left power at the beginning of the political transition.

¹⁰. Among other financial interests, the energy requirements expressed by mining operators in the ex-Katanga. See paragraph 3.3.3.

¹¹. It comprises China Three Gorges International Corporation, State Grid International Development Company, Changjiang Institute of Survey Planning Design and Research, China Gezhouba Group Company, Dongfang Electric Corporation, and SinoHydro.

(ii) a review of the Inga 3 dam's financial viability (Misser 2018). It is worth noting that no information was made available on South Africa's additional energy power following an increase in the projected capacity of the Inga 3 dam (12,000 MW). As of 2024, the dam could become operational.

After establishing the ADPI as a state agency¹², on March 2, 2018, the Congolese authorities called for re-dynamizing a partnership with the World Bank to benefit from its expertise (World Bank 2018, 44-45).

3.3.2. The Energy Sector in the DR Congo under the Pressure of Green Technology Development

In 2016, the energy deficit in the copper-cobalt belt of the ex-Katanga was estimated at 900 MW. In addition to the electricity gap, an insufficient reliable transport system has affected the development of industrial mining projects. As a result, infrastructure shortages have significantly increased investments costs. On short and medium terms, the SNEL and mining companies concluded PPPs to build¹³ and rehabilitate energy infrastructure (Manson 2014). The electricity bottlenecks have affected Chinese overseas mining operations in the belt¹⁴. Building the Inga 3 dam will secure the adequate energy to ensure sustainable industrial mining production. The DR Congo is a major cobalt producer. Also, it is likely to become an emerging lithium producer. Several lithium projects are in the exploration phase in the Southeast of the DR Congo. As a result, the country is at the forefront of green technology development, particularly the Electric Vehicles (EVs) revolution, thanks to rising Chinese outbound mining investments in the copper-cobalt belt (Gnassou 2017).

Conclusion and Policy Recommendations

Tackling the infrastructure gap is critical for attracting further FDI inflows to the DR Congo. In this regard, the Grand Inga project plays a vital role in unlocking the country's renewable energy potential. The extreme politicization of the project has overshadowed the technical, financial, social, and environmental dimensions aspects of the project.

Political turmoil has delayed the official launch of the Inga 3 dam. It has also revealed uncertainty on the Grand Inga project's financial viability. In 2018, the fragile state faces an unprecedented electoral year, after postponing the 2016 presidential elections. Restoring political stability is a pre-requisite for preserving donors and the private sector's confidence to secure funding for the Grand Inga project in the long run.

¹². The ADPI's status evolved on a basis of the ordinance n°004/018 "portant dispositions complémentaires relatives au statut, à l'organisation et au fonctionnement de l'Agence pour le Développement et la Promotion du projet Grand Inga (ADPI)", dated January 9, 2018.

¹³. For instance, Sicominex Sarl is confronted with an electricity deficit of 170 MW to be fully operational. In response, the Congolese authorities awarded to two Chinese companies (CREC, SinoHydro Corporation) the construction of a hydroelectricity plant of 240 MW in Busanga in October 2015. The five-year project amounted of USD 660 million. Busanga's hydropower plant is part of the Sino-Congolese agreement. Also, the construction of the Luena coal power plant (400 MW) is underway, which will create additional pollution.

¹⁴. Given the context, this could explain the selection of the Groupement Chine d'Inga among the developers of the Inga 3 dam project. The Groupement of China comprises Chinese companies (SinoHydro and Dongfang Electric Corporation) detaining mining assets in the copper-cobalt belt.

Bibliography

International Hydropower Association. 2017. *Hydropower Status Report*, <https://www.hydropower.org/sites/default/files/publications-docs/2017%20Hydropower%20Status%20Report.pdf>

International Hydropower Association. 2018. *Hydropower Status Report 2018 – Sector Trends and Insights*, (June). https://www.hydropower.org/sites/default/files/publications-docs/iha_2018_hydropower_status_report_1.pdf

IMF. 2013. *Democratic Republic of the Congo: Poverty Reduction Strategy Paper*, Country Report n°. 13/226, January 29, <https://www.imf.org/external/pubs/ft/scr/2013/cr13226.pdf>

IMF. 2015. *Democratic Republic of the Congo, Article IV Consultation*, Country Report, n° 15/280, October, <http://www.imf.org/external/pubs/ft/scr/2015/cr15280.pdf>

IMF. 2015. *Democratic Republic of the Congo, Country Report – Selected Issues*, n° 15/281, October, <https://www.imf.org/external/pubs/ft/scr/2015/cr15281.pdf>

Fabricius Peter. 2016. "Inga dream again deferred", *Institute for Security Study (ISS) Today*, August 10, 2016. <https://issafrica.org/iss-today/inga-dream-again-deferred>

Gnassou Laure. 2017. "Rising Chinese Mining Overseas Assets in the Copper-Cobalt Belt of the DR Congo facing Political Instability", paper for the International Society for the Study of Chinese Overseas (ISSCO) Conference, Nagasaki (Japan), November 17-19.

Journal Officiel de la RD Congo. 2014. *La loi n° 14/011 du 17 juin 2014 relative au secteur de l'électricité*, <http://www.leganet.cd/Legislation/Droit%20economique/Energie/Loi.14.011.17.06.2014.htm>

Journal Officiel de la RD Congo. 2014. *Loi n°14/026 du 21 novembre 2014 autorisant la ratification par la République Démocratique du Congo du traité relatif au projet hydroélectrique Grand Inga entre la République Démocratique du Congo et la République d'Afrique du Sud*, numéro 24, (décembre): 6-7, <http://www.leganet.cd/Legislation/JO/2014/Numeros/JO.15.12.2014.pdf>

Journal Officiel de la RD Congo. 2015. *Ordonnance n° 15/079 du 13 octobre 2015 portant création, organisation et fonctionnement d'un service spécialisé au sein de la présidence de la République dénommé "Agence pour le Développement et la Promotion du Projet Grand Inga en sigle "ADPI – RDC"*, numéro 21, (novembre): 6-7, www.leganet.cd/Legislation/JO/2015/Numeros/JO.01.11.2015.pdf

Journal Officiel de la RD Congo, (2015), Ordonnance n°15/080 du 13 octobre 2015 portant nomination d'un Chargé de mission au Cabinet du Président de la République, numéro 21, (novembre): 8, www.leganet.cd/Legislation/JO/2015/Numeros/JO.01.11.2015.pdf

Kapandji Kalala Bruno. 2017. *Presentation du Projet Grand Inga*, World Hydropower Congress, Addis Ababa (Ethiopia), May, 9-11, <https://iha.app.box.com/s/pz8s7qxd0dq6re0i97ouitxuvwnqrkz9>

Mabi Mulumba Evariste. 2011. *Congo-Zaïre: Les coulisses du pouvoir sous Mobutu, Témoignage d'un ancien Premier Ministre*, Liège: Les Editions de l'Université de Liège.

Maupin Agathe. 2015. "Energetic Dialogue in South Africa: The Inga Example", *SAIIA Policy Insights*, n° 16, (May): 1-12,
[file:///C:/Users/Owner/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/saia_spi_16_maupin_20150526%20\(5\).pdf](file:///C:/Users/Owner/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/saia_spi_16_maupin_20150526%20(5).pdf)

Manson Katrina. 2014. "Congo renews push for Grand Inga dam, an African white elephant", *Financial Times*, September 9, 2014. <https://www.ft.com/content/207ac48c-34ef-11e4-aa47-00144feabdc0>

Ministère des Ressources Hydrauliques et Electricité. 2016. *Atlas des Energies Renouvelables en RDC*, janvier (2ième version).

Misser François. 2018. "World's biggest non-existent dam gets bit bigger, bit further from existing", *African Arguments*, April 11, 2018. africanarguments.org/2018/04/11/worlds-biggest-non-existent-dam-gets-bit-bigger-bit-further-from-existing-congo-grand-inga/

Société Nationale d'Electricité. 2000. *Trente ans de vie de SNEL 1970-2000*. Kinshasa, Gombe.

Société Nationale d'Electricité. 2005. *Paul de Sauvetage et de Redressement*. Kinshasa: Médiaspaul.

Taliotis Constantinos, Baziliana Morgan, Welscha Manuel, Gielenc Dolf, Howellsa Mark. 2014. *Grand Inga to power Africa: hydropower development scenarios to 2035*, 1-19, https://irena.org/EventDocs/Session7_Parallel_A_Costantinos_Taliotis_Paper.pdf

World Bank. 2014. *Project Appraisal Document on a Proposed Grant of SDR 47.7 million (USD 73.1 million equivalent) to the Democratic Republic of Congo for an Inga 3 Basse Chute and Mid-Size Hydropower Development Technical Assistance Project*, Report n° 77420-ZR, March,
<http://documents.worldbank.org/curated/en/817971468245430631/pdf/774200REPLACEM0140Box382121B00OUO90.pdf>

World Bank. 2016. *World Bank Group Suspends Financing to the Inga-3 Basse Chute Technical Assistance Project*, Press Release, July 25,
<http://www.worldbank.org/en/news/press-release/2016/07/25/world-bank-group-suspends-financing-to-the-inga-3-basse-chute-technical-assistance-project>

World Bank. 2018. *Implementation Completion and Result Report (H909-ZR) on a grant in the Amount of SDR 47.7 Million (USD 64.5 million equivalent) to the Democratic Republic of Congo for a DRC Inga 3 and Mis-Size Hydropower Development TA (P131027)*, Report n°: ICR00004325), February 5,
documents.worldbank.org/curated/en/266481521472063648/pdf/ICR00004325-03142018.pdf

World Bank. 2018. *World Development Indicators*, June 29,
<http://wdi.worldbank.org/table/3.13>

Zoom Eco. 2018. "Electricité: le processus de libéralisation du secteur reste à parfaire (FEC)", 5 avril, 2018. <http://zoom-eco.net/a-la-une/rdc-electricite-le-processus-de-liberalisation-du-secteur-reste-a-parfaire-fec/>